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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,918	08/25/2000	Peter K. Cheo	PC-12	7311

7590 10/23/2002  
M P Williams  
Patent Counsel  
210 Main Street  
Manchester, CT 06040

EXAMINER
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NGUYEN, TUAN M

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/648,918

Applicant(s)

CHEO ET AL.

Examiner

Tuan M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 14-17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

1. With respect to the response filed on 09-30-2002, the final rejection mailed on 08-05-2002 is withdrawn.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 14-17 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claim 14, claim recites there being (a) a single core or (b) a central core and additional cores disposed outwardly of said central core, oriented in an array along a line inclusive of the center of said cladding with their long axes perpendicular to said line and with an equal distance between the centers of adjacent cores. It is not clear how it can be a single core has an equal distance between the centers of adjacent cores which render the claim confusing, vague and indefinite.

Regarding to claims 16 and 17, claim 16 recites there are a plurality of cores with **substantially** the same cross sectional area as each other of said cores, and claim 17 recites a plurality of cores with **substantially** the same refractive index. It is unclear **substantially** meant, which render the claims confusing, vague and indefinite.

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***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 14, 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiGiovanni et al (5,708,669) in view of Keck (4,415,230).

With respect to claim 14, DiGiovanni et al discloses article comprising a cladding pumped optical fiber laser comprising optical fiber (10) for a cladding pumped fiber laser, outer cladding (11), inner cladding (13), a core (12) disposed within a pump cladding, the core comprises a rare earth dopant, note col. 1 line 16 to col. 2 line 61, see fig. 1. However DiGiovanni do not discloses each core having an oblong cross section. Whereas Keck discloses the core having an oblong cross section, note col. 3 line 61, see fig 6. For the advantageous of the cladding pump, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide DiGiovanni with the core having an oblong cross section as taught or suggested by Keck.

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With respect to claim 15, DiGiovanni discloses the optical fiber (10) has one core (12), see fig. 1.

With respect to claim 20, DiGiovanni discloses the cladding pump optical fiber (10) has a circular cross section, see fig 1.

7. Claims 16-17, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiGiovanni et al (5,708,669) in view of Keck (4,415,230) further in view of Scifres (5,566,196).

With respect to claim 16, DiGiovanni and Keck discloses all limitations as set forth in claim 14 except for plurality of cores with substantially the same cross sectional area as each other of the cores. Whereas Scifres disclose cores (11) have the same diameter of about 10  $\mu\text{m}$  or less, note col.3 line 21, see fig. 1. For the advantageous of the cladding pump optical fiber, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide DiGiovanni with the plurality cores having the same cross sectional area as taught or suggested by Scifres.

With respect to claim 17, Scifres discloses multiple non-concentric core regions embedded within lower refractive index cladding material, note col. 7 line 5 to 14.

With respect to claim 19, Scifres discloses the core regions (11) may have a diameter of 10  $\mu\text{m}$  or less, alternately, may have a larger diameter in order to support multiple modes of propagation. The core (11) may be spaced with their core regions edges within about 2  $\mu\text{m}$  of neighboring core regions in order to allow interaction of the evanescent light for phase locking of the core regions, note col. 3 line 20 – 37.

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With respect to claim 21, Scifres discloses the cores (51a-51e) have rectangular cross section, note col. 3 line 44, see fig 5.

***Allowable Subject Matter***

8. Claims 1-13 allowed.
9. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response To The Arguments***

10. Applicant's arguments with respect to claims 14-17 and 19-21 have been considered but are moot in view of the new ground(s) of rejection.

***Communication Information***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 306-5511 for regular communications and (703) 306-5511 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip  
SPE  
Art unit 2828

TMN  
October 18, 2002